

BULLETIN

OF THE

BROOKLYN ENTOMOLOGICAL SOCIETY

VOL. XI

APRIL, 1916

No. 2

THE TESTIMONY OF THE TOMBS.

By R. P. Dow, Brooklyn, N. Y.

In Egypt the surviving arts show that at the earliest known periods there was the greatest degree of initiative, the widest latitude of expression, the finest workmanship. Nevertheless surviving records of all Egypt do not mention the economic aspect of insects as extensively as the single chapter of Exodus regarding the plagues sent to rebuke a faithless Pharaoh. No chronology can bring nearer than, say, 6,000 B. C. the date of the first king of the reputed first human dynasty, Menes, a physician, learned in anatomy, and it is probably earlier than 9,000 B. C. That the land was densely populated is proven by the great numbers of men needed to build the great pyramids of about 4,000 B. C. The remains of aboriginal culture are few, since agricultural Egypt was always the favorite conquest of the warlike and less civilized. The papyri date only from about 1,500 B. C. The monuments in stone are the material for all that we know. From them the corps of savants of Napoleon drew the information that made Egypt known to the world. The best scholars of the time, 1797, searched every discoverable record. The insect data were handed to Lat-

The frontispiece represents the hand of a princess of a dynasty living about 1,800-2,000 B. C. It is almost exactly life size. In 1868 a series of royal tombs were discovered near Memphis. The severed hand, which is clearly that of a young woman, was secured by Rev. Howard Crosby and is now owned by Nicholas E. Crosby, Ph.D., of New York. The rest of the mummy is in Cambridge, Mass. The texture of the cloth surrounding the hand is clearly to be seen. The stone of the scarab itself is pale green. The ring is of gold, a plain wire, wound on the upper half with finer wire.

reille to be worked up, but they were pitiably meager. However Egypt gives us the first mention of a beetle, the scarab. The worship of this creature antedates the history of any land.

In life the scarab is a coprophagous Scarabæid beetle, about an inch long, black and stout, occurring commonly all around the Mediterranean, extending to the Cape of Good Hope and to south China. Its life history is similar to that of any of our common *Canthon* or *Copris*. Its scientific name is *Ateuchus sacer*. No severer arraignment can be made of the vandalism injected into scientific nomenclature than the mutation whereby the generic name *Ateuchus* has been substituted for *Scarabæus* in violation



FIG. 1.



FIG. 2.

FIG. 1 is drawn from a gold inlay on a lacquered copper box. While it came from Assyrian remains near Ninevah and dates about 800 B. C., it is characteristically Egyptian and was probably imported. One wing is omitted for convenience. Note that the wing is feathered like a bird, not membranous like a beetle. This conventionality is general after, say, 4,000 B. C.

FIG. 2 is a conventional symbol of very common occurrence, meaning the flight of time or the complete cycle of the world. Egyptologists generally call it a bird symbol. Compare it with Fig. 1, and note that, while the tail is of a bird, the horns are of the scarab. The wings might be either. The significance of the symbol is that of the scarab.

of every phase of the rights of priority and the destruction of the right application of name to the oldest, grandest, best known genus of beetles in the world. Throughout classic times and the Middle Ages all beetles were known either as *Scarabæus* or *Cantharis*. The type of the genus restricted by Linnæus is, of course, the sacred beetle.

The present genus *Ateuchus* is a fairly large one, about thirty species being so far described from Africa. More than one were included in Egyptian veneration. A notable variety, found widely

in Egypt and Nubia, named by Latreille *Ateuchus Ægyptorum*, is golden green, larger than the true *sacer*, and Pliny says that to gaze upon it relieves the eyes of fatigue. Another species mentioned in ancient times, but not now clearly identified is smaller and with small horns turned backward. This creature preserved life if picked up by the left hand and worn as an amulet. Still another is called *Fullo*, is covered with white spots, and made a precious amulet. No *Ateuchus* corresponds to this description but it has been discovered recently that beetles of other families were considered also as scarabs, notably those of the genus *Pimelia*. There is a species of this genus, quite as robust as an *Ateuchus*, which is thoroughly specked with white. Moreover, the beetle shown in figure 1 is undoubtedly a *Pimelia*, although regarded by the Egyptians themselves as a scarab. The three elytral marks are a faithful copy of a species still common in Africa. Further evidence is the pygidium shown in the drawing. This is a constant character in *Pimelia*, but never found in the coprophagous Scarabaeids.

In the American Museum of Natural History there are several fine necklaces brought from the Congo region by the Lang and Chapin expedition, which clear up the matter. They are of *Pimelia* beetles which the natives strung after having *embalmed* them. The process of filling the bodies with gums and spices is remarkably like the ancient Egyptian embalming process, so much so that it is almost certain that it is a survival of the same custom and further proof of the kinship of the aboriginal Egyptians with the black races throughout the whole length of Africa.

The beetle shown in figure 3 is obviously a true Scarabaeid, but figure 4, while a scarab in religious intent, reminds one strongly of a *Cetonia*.

When the annual subsidence of the overflow of the Nile leaves throughout the valley its fertile coating of rich mud, the scarab is the first notable creature emerging. It heralds the beginning of spring, the return of nature's creative power. Its stay is brief. Writers of the last century B. C. assert that the odor of roses is fatal to it. In reality the scarab disappears for the season about the time the roses blossom. Promptly after emergence from the mud the scarab takes some cattle dung, shapes it into a sphere,

like the world, rolls it from east to west with its hind legs, itself looking toward the sunrise while rolling its burden along the course of the sun. The dung ball (having within it an egg laid by the female) is buried in a hole dug by the fore tibiae, the fore tarsi being obsolete in these beetles. It remains in the hole for twenty-eight days—the lunar month. The creature within, then animated, opens the ball and on the 29th day casts it into the water, for on this day conjunction of sun and moon takes place, of which the generation of the world was the first result. The dentation of the fore tibiae of the scarab are 30 in number,—the days of the celestial month, and those on the head resemble the



FIG. 3.

FIG. 3 is the common type of sculpture of Ka, the Father of all the Gods, known to the Greeks as *Batrachacephalus*, *i. e.*, with the head of a frog. Note that the scarab is drawn naturally, not conventionalized. This, then, is early art. Inferentially the Father of the Gods is the one worshipped earliest.



FIG. 4.

FIG. 4 is a much conventionalized scarab from a signet ring of some non-royal person. It is barely possible that the distortion of head is a relic of the oriental phallic worship.

sun's rays. Hence its dedication to Amen-Ra, the Egyptian God of the Sun Mystery.

The oldest extant written reference to the scarab is that of Horapollo, an Egyptian, who explains that the word means *only begotten*. It designates also generation or a father or the world or a man. The Egyptians claimed that the beetles generated without the meeting of the sexes, which would at first seem a remarkable superstition. In fact, however, the copulatory act is performed in great secrecy and is not easily observable.

If the worship of the scarab began in Egypt it was by a race long since disappeared. Isaac Myer, whose monograph* is admirable, believes it antedated Menes, the first king, and was prevalent among the aboriginal people of the land. The Hottentots of south Africa still hold the insect in religious veneration, from which fact it might be argued that a black race were the Egyptian aborigines and when driven out or made subject by later races left behind religion and language. It is true that the Hottentot language is closely related to the ancient Egyptian. It is possibly a coincidence and possibly an offshoot of the same origin that the natives of Madagascar worship a holy cricket, especially as a similar word designates both creatures.

That the scarab is not found mummified is probably due to the fact that it dries without mummification, retaining its form. The



FIG. 5.



FIG. 6.



FIG. 7.

FIG. 5 is from the cartouche (i. e., the signet, equivalent to our signature) of Shufu I, the builder of the Great Pyramid, about 4,000 B. C. The Egyptian hieroglyphics are a series of pictures, each representing a phonetic sound, a letter, as well as a symbolic significance. The wasp signified the power of inflicting the punishment of death. Hence it is a royal token.

FIG. 6 is similar and comes from the cartouche of the son or brother of Shufu, who succeeded him. Note the different shape of wings. The figure to the left is a conventionalized scorpion.

FIG. 7 is from the cartouche of Psammethichus I, the scholar Pharaoh of Egypt. Note the different shape of wing, head and antenna. This is about 3,000 years later than the two preceding. This same letter occurs in the cartouches of all the members of his family.

cat and the bull, both devoted to sun worship, required artificial preservation. The cat expands and contracts the pupil of its eyes according to the hour of the day—the position of the sun. Horapollo says that one kind of scarab is like a cat, and irradiated

* "The Scarab," Isaac Myer, N. Y., 1894.

(whatever that may be), hence it is the Sun God's own, hence the statue of the God in Heliopolis, the City of the Sun, in the shape of a cat. Horapollo says that another kind of scarab is bull-formed and two horned. The *apis*, or sacred bull, was greatly revered. There was only one at a time and a wonderful underground city at Memphis is devoted to their mummies. Both bull and bull scarab typify the two horns of the new moon. A third scarab, says Horapollo, has but one horn. It suggests the sacred long billed ibis, equally venerated and mummified after death.

Manetho, an Egyptian historian and philosopher wrote much about the scarabs and their significance, but his works are lost, except the liberal extracts made by Pliny, the Roman naturalist.

Representations of the scarab were made in all possible ways. It was customary to carve the back like the creature itself but to omit the legs, leaving the undersurface flat so that it might be engraved with signature, motto or religious text. Many were drilled from end to end and strung as beads. They were set as brooches or rings. Others were mounted as signets. People of wealth had them carved from stone, and no stone was of too great value for this use. The common people used them of baked and vitrified clay. Much can be told of the age of a genuine scarab from its constituent material. Unfortunately few of them now sold to tourists are genuine. The natives have become adept in their manufacture and plant them in convenient places, waiting for the gullible tourist to come along and make what seems to him a precious find. And yet millions and millions of them were buried with the dead for thousands of years. They are of all sizes. One is five feet long, carved from fine stone. Most of them are rather smaller than the real insect. The earliest positively known belonged to Nebka, a king of the third dynasty, somewhere between 3,900 and 7,000 B. C.

The worship of the scarab never got foothold in Greece. The two religions differed too widely, one being entirely personal in conception of the Deities, the other based on unequalled knowledge of astronomical mysteries. It is alluded to ironically by Aristophanes, the word for its description being always *Helio-cantharis*—the sun beetle. It was never connected with *karabos* the Greek word for the horned beetles. The root of this word is

old. Its Sanscrit form is *carabha*, and was applied to a locust, also to the spiny lobster. The Greek *karabos* is also supplied to the spiny lobster. It is curious that the Latin word *locusta* means not only grasshopper or locust but means spiny lobster, as well. The word *Carabus*, as we use it, was taken directly from the Greek. One well-known Greek manuscript spells the word *skarabos*, but this is probably the error of a copyist. The word *scarabæus* is Latin, taken direct from Egypt as closely as the sound could be imitated.

One might suppose that the scarab worship would be carried to Rome during the period of widest religious latitude following



FIG. 8.



FIG. 9.



FIG. 10.

FIG. 8 is drawn from the cartouche of Rameses III. It is the same as that of Rameses II, always remembered as the oppressor of the Israelites. Note the different shape of wing and the general aspect, hardly at all like a wasp. Yet the symbol is undoubtedly the same. Rameses II was a great king and great general. Other history does not give him the bad character which Exodus does.

FIG. 9 is from a rock carving of Menephtah. It is in even relief, hence the outlines. Note the squared front to the abdomen.

FIG. 10 is probably the earliest picture in the world of a butterfly. It is part of an elaborate carving on a rock tomb near Thebes. For whole picture compare the text.

the reign of the Emperor Heliogabalus, himself an Asiatic priest of the Sun God, but there is no evidence to support this view. The world-wide distribution of the scarab was carried on by the Phœnicians, that astute people who migrated overland from the Red Sea coast to the coast of Palestine and founded the rich cities of Tyre and Sidon long before the Trojan war, before 1,100 B. C. This people monopolized the world's commerce as traders and slave dealers. Egypt was both largest customer and source of supplies. The Phœnicians learned to manufacture scarab signets in wholesale fashion and market them all over the world.

Only the scarabs now dug up tell the world of Phœnicia, of whose cities, like Carthage, its colony, not one reminiscent stone remains on another. Possibly the Phœnicians reached the Hottentots. They certainly introduced the scarab to the Etruscans, who were the most powerful people of Italy before the rise of the Romans. Scarab effigies are still numerous in Etruria. They ceased to be made when Etruscan industry was carried to Rome. They came afresh from Egypt three centuries after the Christian Era and became adopted as a Christian symbol. St. Ambrose, the famous Archbishop of Milan, the converter of St. Augustine, wrote of "Jesus, the good Scarabæus, who rolled up before him the hitherto unshapen mud of our bodies." The symbol survives. The scarab is carved now on many an Italian tomb.

From the rock tombs come the best pictures of all Egypt. Only one other beetle is drawn, a cetonian eating a leaf. There are



FIG. 11.

FIG. 11 shows two of the three butterflies from a wonderful drawing on a rock tomb at Benihassan. The whole picture is of a papyrus thicket. In the water is a sturgeon-like fish and a sea cow. In the grass are five bird's nests, with eggs and young. An ichneumon is shown hunting for eggs. Above are seven species of birds, alight, on the nest or in flight. While the butterflies are of the same species, they differ in body marking and shape of wing. Note especially that the artist was not an entomologist. His butterflies have caudal appendages.

a number of the honey bee, which was plentifully kept in the Nile valley. There is one graphic picture of a *Sphex* preying on a spider. Wasps of the *Vespa* group, as well as *Sphex*, are very common, but they are conventionalized. Four of them are shown here, explained in the footnotes. In the paper, "The Earliest Insects in the World," there is an explanation of the origin of the wasps, and their power of inflicting death. There is a close relationship between Persia and Egypt, dating prior to 6,000 B. C.

From the tombs of Egypt the housefly is pictured, not un-
plentifully. A gadfly is drawn chasing a cow. Grasshoppers
are often drawn, but in no instance as well as some from Chaldæa.
Of the butterflies, the two best are given in our cuts. The ear-
liest in the world is shown in Fig. 10. It dates from about 1,700
B. C. The whole picture is on a tomb near Thebes. It is a fine
relief carving. A nobleman is seated in a wicker chair, fishing in
the Nile. Above his head is flying a butterfly. The artist was
not familiar with the four-wingedness of his model.

From the unwrapping of human mummies many insects have
come to light, some probably accidental introductions, a few
separately and carefully wrapped. *Necrobia rufipes* might have
been an accident. So probably was a specimen of *Lucilia cæsar*,
a cosmopolitan flesh fly. A Buprestid and a Cantharid beetle
were clearly intentionally preserved.

The mosquito is neither pictured nor alluded to. It was left to
Herodotus to mention that creature in his Egyptian narrative,
although it is not differentiated from pestiferous biting insects
generally. He relates that they were so numerous near the
mouth of the Nile that the fisherman used nets to fish by day and
escape the mosquitos by night.

NEW NORTH AMERICAN SPECIES OF NOTOXUS.

BY H. C. FALL, Pasadena, Cal.

A recent survey of the material in my cabinet in this genus re-
vealed the presence of a number of new species, which are here-
with described. It is a notable fact that in two of the new forms
and also in *montanus* Csy.—which was described from a unique
female—the anterior tibiæ are found to be toothed in the male, a
character hitherto known only in *calcaratus*.

Notoxus Geoff.

Notoxus nuperoides n. sp. Form and size of *nuperus*, with which also
it agrees precisely in elytral markings. Head and thorax rufotestaceous,
the latter broadly suffused with blackish on the disk, except for a narrow
median line; elytra rufotestaceous, with the sides, apex and a post-median